AMENDMENTS TO THE CLAIMS

Kindly amend the claims as follows:

1. – 7. (cancelled)

8.   (currently amended) ~~The remote XRD means according to claim 1,~~ A remote XRD means for identifying a material in a volume of interest (VOI) comprising:

   a.   at least one X-ray source targeted towards said VOI;

   b.   at least one X-ray detector adapted to receive diffracted X-rays so an image comprising at least a portion of the obtained XRD patterns is obtained;

   c.   a processor adapted to measure said patterns;

   d.   a database comprising records of patterns' parameters characterizing predetermined materials; said database comprising records of materials that a notification should be provided when identified; and,

   e.   alerting means adapted to issue an alert when a material is identified that is one of the materials for which a notification should be provided when identified;

   wherein the processor is adapted to measure at least a portion (≤ 360°) of the full Debye-Scherrer rings.

9.   (original) The remote XRD means according to claim 8, wherein the processor is adapted to measure the central portion of the XRD patterns.

10. – 14. (cancelled)

15.   (previously amended) A method for acquiring XRD images of a material in a VOI, comprising the steps of:

   a.   receiving VOI coordinates from lower stage system;

   b.   irradiating the material in the VOI;

   c.   acquiring of Debye-Scherrer XRD patterns;

   d.   extracting of Debye-Scherrer XRD patterns;

   e.   converting said XRD patterns (e.g. rings) of said VOI to standard powder X-ray diffraction spectra;

   f. searching and/or matching records in a database for material identification; and then,

   g.   alerting in case said material matches a predetermined record;

   wherein said method enables identification of suspicious substances within said
   VOI with substantially high efficiency.

16.   (cancelled)

17.   (previously amended) The method according to claim 15; wherein back-diffraction is provided.

18.   (previously amended) The method according to claim 15; wherein the detector is a Cell-X, adapted for acquiring both VOI's XRD image and information about its energy profile.

19.   (cancelled)

20.   (cancelled)